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Analyzing the impact of HRM Systems on the organizational climate, culture and outcomes: The mediating role of HMR Strength, organizational climate and culture

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Abstract

It is the propose of this study to (1) analyze the impact of the Human Resource Management (HRM) content (i.e. practices) in the organizational climate, culture, and performance; (2) assess the influence of the HRM process (i.e. *HRM Strength*) as a mediator in the link between HRM content and the organizational climate, culture, and performance; and (3) investigate the mediating roles of climate and culture in the HRM-performance link. The proposed model was tested using a sample of 80 questionnaires, where 63 were responses from non-supervisory employees and 17 from supervisors, from 2 Hospitals. HRM practices were grouped into 4 bundles, through an exploratory factor analysis – *Training, Internal Recruitment*, *Merit Compensation, and Participation & Job Stability*. From these HRM bundles, *Merit Compensation* and *Participation & Job Stability*, were shown to have a significant impact on proximal outcomes. Specifically, *Participation & Job Stability* was associated with *Organizational Citizenship Behavior*, *Merit Compensation* was associated with Work Engagement, and both HRM bundles were associated with *Innovative Behavior*. The mediation effect was only visible in the case of *Innovation & Flexibility* and *Reflexivity* for the relation between *Merit Compensation* and *Innovative Behavior*, and only *Innovation & Flexibility* demonstrated to mediate the relation between *Merit Compensation* and *Work Engagement*. No mediation effects were found concerning *HRM Strength.* Both *Merit Compensation* and *HRM Strength* were found to have a significant association with all the climate dimensions except for *Formalization*.

Keywords: Human Resources Management (HRM), Strategic Human Resources Management, organizational culture, organizational climate, organizational performance, HRM content, HRM Strength

Introduction

The objective of this Work Project is to analyze the influence and the impact of Human Resources Management (HRM) content (i.e. HRM practices) on the culture, climate, and performance of organizations. It also attempts to identify the impact of Human Resources Management Process (i.e. HRM Strength) in these dependent variables. Furthermore, the mediating effect of organizational climate and culture in the HRM-performance link is also analyzed in this paper.

The first part of the Work Project reviews relevant literature, to better understand these relationships and raise the research hypotheses. The methodology will then be described, as well as the statistical analysis. The third part will cover the results obtained and finally a discussion of the results, limitations and contributions is presented.

Literature Review

In a competitive time, when all the departments of a company need to be efficient and are pressured to present measurable results, the Human Resources Management (HRM) departments not an exception. Managers are realizing the importance of human resources as means to achieve a sustainable competitive advantage due to their unique characteristics (Pfeffer, 1995). As such, HR practices need to be carefully designed to build commitment to business strategies, since those practices will shape the behavior and experiences of employees and will become the foundation and support of the organizational cultures (Roweden, 2002 – cited by Molineux, 2012) and also will have an impact on organizational performance (Cunha et al, 2002). Over the last decades, there has been a significant development in theory and research on the impact of human resources management in organizational performance (Paauwe & Boselie, 2005).

However, despite the established association concerning HRM-performance link, the vast majority of the studies fall short on explaining the causes for such association (Guest, 2011).Still within the HRM research there has been an extensive focus on HR practices and systems since they can work as a sustainable competitive advantage by enhancing skills, knowledge and abilities and by attracting and retaining the desired human capital (Chow, 2012; Cunha & Cunha, 2009).

Whereas in the past, research focused on individual HR practices and employee performance, the recent trend has been shifting its focus to bundles of HRM practices (Cunha & Cunha, 2009). This view implies that the HRM practices will be effective if we consider consistent and coherent bundles of practices, which will contribute to the improvement of employee and firm performance by increasing the level of productivity, financial performance or innovation (Cunha & Cunha, 2009). A second perspective focuses on assessing the particular "fit" between the HR policies and practices, and the organizations' competitive strategy, and it emphasizes the necessity of achieving coordination and integration between organizational culture, HRM system, business strategy and organizational goals (Chow & Liu, 2009). This interpretation comes from the fact that HR practices can augment the value of human capital through the development of skills, knowledge and motivation and by influencing the employee's behavior, which are critical to the implementation of a particular strategy and, consequently, to a sustainable competitive strategy (Paauwe & Boselie, 2005). On the other hand, this development of human capital will only be a reality if employees are willing to remain within the company and to make the extra mile. Following this logic, research highlights the creation of high commitment work environment or high involvement-high performance work practices (HIWPs and HPWP), which is virtually an extension of the resource based view (Paauwe & Boselie, 2005). The resource-based perspective was originally presented by Barney (1991), and in terms of the HRM-firm

performance relationship, it states that human resources can act as a source of unique competitive advantage since they are rare, inimitable and non-substitutable due to their complexity.

Still in the research on the HRM-organizational performance link, Paauwe (2009) stresses a concern related to the use by this type of research of a large number of different performance indicators. He then distinguishes distal outcomes from proximal outcomes. Whereas the first are associated with organizational outcomes, the latter concern employees' outcomes. Paauwe considers that it is not possible to accurately measure the true impact of HR practices on the most used performance indicators (financial ones) given the existence of other variables that also impact financial results. In order to affect the organizational outcomes (e.g. productivity, quality of services and goods, market value) it is first necessary to affect proximal outcomes like employees' behaviors and attitudes (e.g. motivation, commitment, trust) through HR practices. The author defends that there is a necessity to analyze the link from more proximal outcomes since the HR practices will have a higher impact on these outcomes, rather than on the organizational outcomes (Paauwe, 2009). In this study, we will consider both types of organizational outcomes. As such, the first research hypothesis is:

H1: HRM practices are expected to positively influence organizational outcomes.

HRM and HRM strength

Bowen and Ostroff (2004) identified two features within a HRM system which will have an impact on organizational performance: content and process.

The content of the HRM system refers to the set of the individual practices and policies that will contribute to the achievement of organizational goals. This does not mean that there is a set of best practices that can be applied to every company. Instead, each company needs to choose the set of practices that better fit its own goals.

On the other hand, process is the way in which the HRM system is implemented in order to convey the messages to the collectivity of employees creating a shared interpretation of what are the expected and preferred behaviors. These authors defend that the organization needs to combine effectively these two features: i.e. content is not sufficient to achieve the desired performance in terms of the HRM system. Even when employees are operating under the same practices and policies they may develop different perceptions about organizational characteristics leading to different psychological climates. Bowen and Ostroff propose that these shared employee perceptions concerning the expected behaviors and practices represent the "strength of the HRM system". The authors claim that a HRM system can create a "strong climate" in which the messages regarding strategic goals and expected behaviors transmitted to the employees are explicit and unambiguous. Bowen and Ostroff (2004) assert that "Strength of the HRM system" needs to have distinctiveness (the message is able to protrude in the environment), consistency (the cause-effect of the attitudes or behaviors need to remain constant over time) and consensus (when agreement within employees is possible). Aligned with the concepts mentioned above the following hypothesis emerges:

H2: The link between HRM practices and organizational outcomes is expected to be mediated by HRM strength.

Organizational climate

In 1998 Ferris and his colleagues formulated the social context model in which they refer to climate, culture and a political consideration as intermediates in the HR system and organizational performance (Ferris *et al.*, 1998).

According to the social context model, the cultural values have an influence on the HR systems adopted by the company and those same systems will determine the organizational climate. Although it has been widely established that climate can be

described as employee's perception of their organization, there have been divergent definitions and even inconsistencies when describing the term (Patterson, et. al, 2005). The dominant approach, proposed by Patterson and his colleges, is aligned with the definition presented in the work of Bowen & Ostroff (2004), which describes organizational climate as a shared perception of what the organization is like in terms of practices, policies, procedures, routines, and rewards. Its effect on employees' behaviors will affect organizational outcomes. Hence, the following hypothesis:

H3: HRM practices are expected to positively influence organizational climate.

Nonetheless, the practices are not alone when defining organizational climate. Bowen and Ostroff propose that if the process of HRM is strong enough, even when different practices are assigned to different departments, a common perception of the organizational climate may emerge among the employees, that is, HRM Strength may influence the organizational climate. This will be assumed as the fourth hypothesis in the study:

H4: The HRM Strength is expected to positively influence the organizational climate.

Furthermore, previous research has consistently demonstrated that climate is correlated with higher-level behaviors and several organizational performance indicators (Bowen & Ostroff, 2004). Thus, the following hypothesis can be raised:

H5: The link between HRM practices and organizational performance is expected to be mediated by organizational climate.

Organizational culture

Organizational culture can be defined as "the pattern of shared values and beliefs that help individuals understand organizational functioning and thus provide them with the norms for behavior in the organization" (Deshpandé, *et al.*, 1993: 24). Organizational culture will define the organizational way of operating by influencing decision-making

and action, and the employees' interactions with peers, management and clients (Patterson *et al.*, 2005 – Svyantek and Bott, 2004).

Deshpandé and his colleges (1993) refer to four types of organizational culture (Clan, Adhocracy, Hierarchy, and Market) along two axes: Organic processes vs Mechanistic processes, and Internal maintenance vs External positioning. A Clan culture is characterized by an emphasis on human resources development and commitment, participation, teamwork, and sense of family. A leader in a Clan culture is perceived as a mentor, facilitator, and parent-figure; a Hierarchy culture is well regulated, stable, power oriented, predictable and runs smooth operations. A leader in this type of culture is seen as a coordinator and administrator; a Market culture is characterized by a strategic focus towards competitive advantage and market superiority and has competitiveness, and goal achievement as core attributes. A leader in a Market culture is usually decisive and achievement-oriented; an Adhocracy culture is portrayed as a dynamic work place where people are encouraged to be risky and focus on innovation, growth and new resources. A leader in an Adhocracy culture displays an entrepreneurial, innovator and risk taker attitude. Attributable to the characteristics associated with the type of service provided by the hospitals, the dominant culture is expected to be Hierarchy.

There are different views of the role of organizational culture. Some scholars defended that organizational culture works has an antecedent of the HRM system (e.g. Ferris *et al.*, 1998), while other authors consider the impact of the HRM practices in the process of cultural change (Cunha & Cooper, 2002; Molineux, 2012). In this study we followed the second approach. The rationale behind this choice is related to the new demands that hospitals are experiencing regarding their efficiency. As a result of the current economic crisis, hospitals are facing an intense pressure to change their cultures, to enhance their

efficiency mainly through practices and processes (e.g. cost reduction). Altering HR practices is therefore expected to influence a cultural change in the organization. Hence:

H6: HRM practices are expected to positively influence the organizational culture.

Ferris and his colleges refer to culture as a mediator in the HRM-performance link. However, in periods of large change, the role of HRM in changing culture can be emphasized (Cunha & Cooper, 2002).Therefore it is reasonable to raise the following hypothesis:

H7: The link between HRM practices and organizational performance is expected to be mediated by organizational culture.

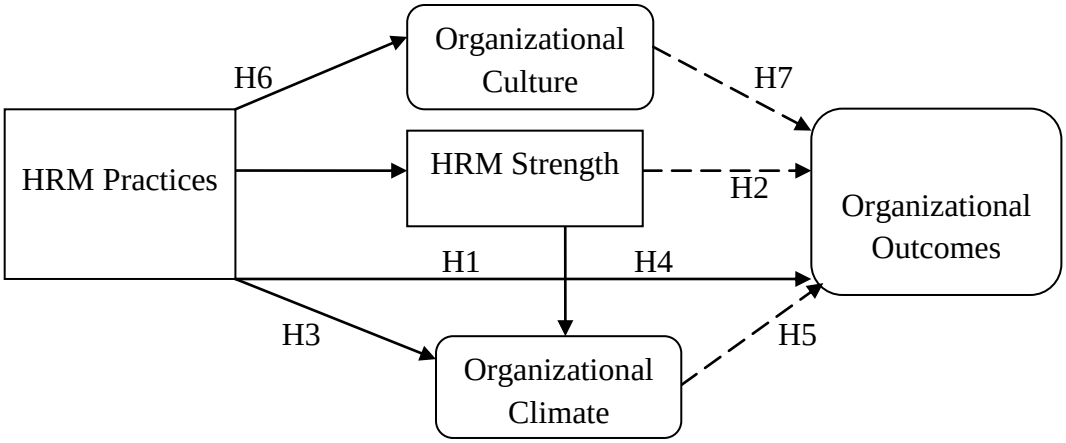

Figure 1 – Proposed model

Methodology

Sample and Data collection

Notwithstanding the great interest of working in an area such as the Health Care Industry, the sample and data collection proved to be a demanding task. Several proposals were sent to hospitals all across the country in order to collect a significant number of cases. This obstacle was expected from the beginning due to the unique characteristics of this field, to the processes of restructuring and to the pressures that hospitals are facing nowadays. A total of 80 questionnaires from non-supervisory

employees and 17 from supervisors were collected and applied in this study. The sample was obtained within British Hospital (7 non-supervisors and 1 supervisor) and Hospital de Faro (56 non-supervisors and 16 supervisors). Both questionnaires were composed by four large parts, both of which included HRM content and HRM strength. The supervisors' questionnaire additionally assessed organizational culture and organizational performance – distal outcomes; the employees' questionnaire additionally assessed organizational climate and organizational performance in terms of proximal individual outcomes. Both questionnaires were accompanied by some biographical control questions but always maintaining the anonymity of each person which is vital for the study in question.

Measures

All questionnaires are rated on a 6-point scale ranging from 1 (strongly disagree) to 6 (strongly agree).

HRM content (i.e. practices). Measured by 17 items based on a scale developed by Sanders, et al. (2008), to assess the level of agreement relative to the use of HRM practices in their firms (Section 1 in both questionnaires, Appendix 2 and 3). Factor Analysis was performed, with Varimax Rotation (fixed number of factors: 4) to reduce the 17 items into bundles (Appendix 1). The factors obtained were labeled: *Training* (*T*; items S1.1 to S1.4) with a Cronbach's α = .797; *Internal Recruitment* (*IR*; items S1.5 to S1.7) with a Cronbach's α = .842; *Merit Compensation* (*MC*; items S1.12 to S1.15) with a Cronbach's α = .714; and *Participation& Job Stability* (*P&JS*; items S1.8, S1.9, S1.11, S1.16, and S1.17) with a Cronbach's α = .695.

HRM Strength. To measure this variable, the scale developed by Coelho, et al. (2012) was used (Section 3 in both questionnaires, Appendix 2 and 3), which15 items (and a total score was used, with Cronbach's α =.924).

Organizational climate. The scale developed by Patterson *et al.* (2005) was used (Section 4, Appendix 2), from which 16 items grouped into 4 variables were selected: *Integration* (*I*; items 1 to 4) with a Cronbach's α = .674; *Formalization* (*F*; items 5 to 8) with a Cronbach's α = .708; *Innovation & Flexibility* (*I&F*; items 9 to 12) with a Cronbach's α = .810; and *Reflexivity* (*R*; items 13 to 16) with a Cronbach's α = .755.

Organizational culture. The scale used by Deshpandé *et al.* (1993) was chosen (Section 4, Appendix 3), with 15 items that were transform in 4 variables: Clan (*C*; items 1 to 4) with a Cronbach's α = .807; *Adhocracy* (*A*; items 5 to 8) with a Cronbach's α = .682; *Hierarchy* (*H*; items 9 to 12) with a Cronbach's α = .854; *Market* (*M*; items 1 to 4) with a Cronbach's α = .773.

Individual Outcomes. The variable is composed by 5 scales (Section 5, Appendix 2): *Innovative Behavior* (*IB*), includes 5 items based on a scale developed by Shipton *et al*. (2013), with a Cronbach's α = .809; *Organizational Citizenship Behavior* (*OCB*), includes 8 items based on a scale developed by Lee & Allen (2002), with a Cronbach's α = .778*; Work Engagement* (*WE*), is constituted by 9 items based on a scale developed by Bakker *et al.* (2003), with a Cronbach's α = .732; *Job Satisfaction* (*JS*), contains 3 items based on a scale developed by Kim *et al.* (1996), with a Cronbach's α = .524; *Organizational Commitment* (*OC*), contains 4 items based on a scale developed by Allen & Meyer (1990), with a Cronbach's α = .494. The latter two variables were not used in the analysis due to the low value of the respective Cronbach's α.

Organizational Outcomes. This variable includes two scales (Section 5a/5b, Appendix 3): *Organizational Performance*, composed by 6 items based on Cunha *et al.* (2002, 2009), with a Cronbach's α = .769; and *Organizational Innovation*, composed by 5 items based on a scale developed Shipton *et al.* (2013), with a Cronbach's α = .752.

Control variables. The two questionnaires were accompanied by some control questions (Section 6, Appendix 2 and 3), regarding qualifications, sex, age, number of

employees in the company, number of kids, civil status, nationality, income, and position in the company to control for their effect on the dependent variables.

Results

Due to the small size of the supervisory sample, some of the hypotheses could not be tested. As such, the analyses were limited to the variables included on the employees' questionnaires. However, despite this problem, the correlation between HRM bundles and organizational culture was computed and presented below. The results present, however, the only correlation found between HRM bundles and organizational culture.

We started by using the control variables in order to test their impact on the linkages tested. No significant results were obtained and so these variables were dismissed from the statistical analyses.

The **1st Hypothesis** intended to test the influence of HRM practices on the employees' outcomes. Regression analyses were carried out with each of the individual outcomes (*Innovative Behavior*, *Organizational Citizenship Behavior*, and *Work Engagement*) as dependent variables and the HRM bundles (*Training*, *Internal Recruitment, Merit Compensation*, and *Participation & Job Stability*) as independent variables.

The results obtained for *Innovative Behavior*, show that both *Participation & Job Stability* ($\beta = .427$, $p = .003$) and *Merit Compensation* ($\beta = .342$; $p = .016$) help explain the dependent variable as show in the table below.

	Unstandardized Coefficients		Standardized Coefficients			
	B	σ	β	t	Sig.	VIF
(constant)	8.859	2.579		3.435	.001	1.000
Participation & Job Stability	.464	.147	.427	3.167	.003	1.302
Training	-.090	.150	-.079	-.605	.549	1.220
Internal Recruitment	-.100	.156	-.078	-.642	.524	1.066
Merit Compensation	.423	.169	.342	2.507	.016	1.329

Table 1 – Regression coefficients, HRM bundles as independent variables and Innovative Behavior as dependent variable

Concerning *Organizational Citizenship Behavior*, the results show that only *Participation & Job Stability* (β = .313, p = .042) contributes to significantly explain this outcome.

	Unstandardized Coefficients		Standardized Coefficients			
	B	σ	β	t	Sig.	VIF
(constant)	18.246	3.716	3.435	4.91	0	1.000
Participation & Job Stability	.442	.21	.313	2.101	.042	1.28
Training	.36	.216	.24	1.668	.103	1.191
Internal Recruitment	.235	.229	.139	1.027	.311	1.062
Merit Compensation	.132	.24	.083	.551	.585	1.302

Table 2– Regression coefficients, HRM bundles as independent variables and Organizational Citizenship Behavior as dependent variable

In terms *Work Engagement*, only *Merit Compensation* (β = .348, p = .024) significantly explains the dependent variable.

	Unstandardized Coefficients		Standardized Coefficients			
	B	σ	β	t	Sig.	VIF
(constant)	26.462	3.324		7.96	0	1.000
Participation & Job Stability	.18	.191	.143	.944	.35	1.31
Training	.17	.199	.125	.855	.397	1.221
Internal Recruitment	.069	.197	.047	.349	.728	1.046
Merit Compensation	.506	.217	.348	2.335	.024	1.274

Table 3– Regression coefficients, HRM bundles as independent variables and Work Engagement as dependent variable

The **2nd Hypothesis** states that the HRM Strength is expected to mediate the relationship between HRM bundles and employees' outcomes. To test mediation effects, three conditions need to be satisfied: (1) *the independent variable* significantly predicts *the dependent variable*; (2) *the independent variable* significantly predicts *the mediating variable* and (3) *the mediating variable* significantly predicts *the dependent variable* controlling for *the independent variable.* Consequently, in order to test the

second Hypothesis, a set of regression analyses was performed for each of the employees' outcomes (*Innovative Behavior*, *Organizational Citizenship Behavior*, and *Work Engagement*) as dependent variables, and each of the HRM bundles (*Training*, *Internal Recruitment, Merit Compensation*, and *Participation & Job Stability*) as independent variables, and *HRM Strength* as mediator. As a fourth step, a Sobel test was conducted in order to test the significance of the mediation effect.

The mediation effect of *HRM Strength* was not significant in the link between the bundles of HRM practices used and *Innovative Behavior* since the third condition was not verified; when considering *Organizational Citizenship Behavior* and *Work Engagement*, after performing the Sobel Test, one may conclude that there is no significant mediation of the *HRM Strength* on the relations between *Participation & Job Stability* and *Organizational Citizenship Behavior* and *Merit Compensation* and *Work Engagement* (z = .893 and z = 1.2, respectively). Nonetheless, there is some evidence of a non-significant mediation, since the independent variables lose significance and the mediator variable maintains significance.

		Standardized Coefficients	Sig
		β	
Step 1 (the independent variable predicting the dependent variable)	P&JS MC	.427 .342	.003 .016
Step 2 (the independent variable predicting the moderator)	P&JS MC	.233 .418	.058 .001
Step 3 (the moderator predicting the dependent variable when controlling the independent variable)	Strength	.222	.12

Table 4– Mediation test for Innovative Behavior

		Standardized Coefficients	Sig
		β	
Step 1 (the independent variable predicting the dependent variable)	P&JS	.313	.042
Step 2 (the independent variable predicting the moderator)	P&JS	.413	.001
Step 3 (the moderator predicting the dependent variable when controlling the independent variable)	Strength	.373	.013

Table 5– Mediation test for Organizational Citizenship Behavior

		Standardized Coefficients	
		β	Sig
Step 1 (the independent variable predicting the dependent variable)	MC	.348	.024
Step 2 (the independent variable predicting the moderator)	MC	.494	0
Step 3 (the moderator predicting the dependent variable when controlling the independent variable)	Strength	.317	.035

Table 6– Mediation test for Work Engagement

The **3rd Hypothesis** proposes that the HRM practices positively influence organizational climate. In order to test this Hypothesis a regression analysis was conducted for each of the climate dimensions (*Integration, Formalization, Innovation & Flexibility*, and *Reflexivity*) as dependent variables and the HRM bundles (*Training, Internal Recruitment, Merit Compensation*, and *Participation & Job Stability*) as independent variables. *Merit Compensation* significantly predicted three climate dimensions (β = .340, p = .024 in *Integration*; β = .333, p = 0.26 in *Innovation & Flexibility*; and β = .368, p = .11 in *Reflexivity*) but not *Formalization*.

	Unstandardized Coefficients		Standardized Coefficients			
	B	σ	β	t	Sig.	VIF
(constant)	4.324	1.977		2.188	.034	1.000
Training	-.066	115	-.082	-0.577	.567	1.219
Internal Recruitment	.02	.118	.023	0.171	.865	1.05
Participation & Job Stability	.204	.113	.265	1.803	.078	1.301
Merit Compensation	.299	.154	.324	2.328	.044	1.279

Table 7– Regression coefficients, HRM bundles as independent variables and Integration as dependent variable

	Unstandardized Coefficients		Standardized Coefficients			
	B	σ	β	t	Sig.	VIF
(constant)	3.424	2.722		1.258	.215	1.000
Training	.011	.159	.01	.071	.944	1.219
Internal Recruitment	.147	.162	.119	.908	.369	1.05
Participation & Job Stability	.22	.156	.206	1.411	.165	1.301
Merit Compensation	.407	.177	.333	2.303	.026	1.279

Table 8 – Regression coefficients, HRM bundles as independent variables and Innovation & Flexibility as dependent variable

	Unstandardized Coefficients		Standardized Coefficients			
	B	σ	β	t	Sig.	VIF
(constant)	4.663	2.185		2.134	.038	1.000
Training	.178	.138	.183	1.29	.204	1.32
Internal Recruitment	.159	.131	.154	1.212	.232	1.054
Participation & Job Stability	.071	.13	.08	.549	.585	1.376
Merit Compensation	.372	.141	.368	2.638	.011	1.278

Table 9 – Regression coefficients, HRM bundles as independent variables and Reflexivity as dependent variable

In order to test the **4th Hypothesis,** which states that the HRM Strength is expected to positively influence the organizational climate, a regression analysis was used with each of the organizational climate dimensions (*Integration*, *Formalization*, *Innovation & Flexibility*, and *Reflexivity*) as dependent variables and *HRM Strength* as independent variable. As shown on the tables below, the hypothesis is partially supported since *HRM Strength* significantly predicts *Integration* (β = .59, p = .000), *Innovation & Flexibility* (β = .657, p = .000), and *Reflexivity* (β = .555, p = .000).

	Unstandardized Coefficients		Standardized Coefficients			
	B	σ	β	t	Sig.	VIF
(constant)	2.005	1.411		1.421	.161	1.000
Strength	.148	.028	.59	5.219	0	1

Table 10 – Regression coefficients, Strength as independent variables and Integration as dependent variable

	Unstandardized Coefficients		Standardized Coefficients			
	B	σ	β	t	Sig.	VIF
(constant)	1.747	1.675		1.043	.302	1.000
Strength	.208	.034	.657	6.169	0	1

Table 11 – Regression coefficients, Strength as independent variables and Innovation & Flexibility as dependent variable

	Unstandardized Coefficients		Standardized Coefficients			
	B	σ	β	t	Sig.	VIF
(constant)	4.428	1.603		2.761	.008	1.000
Strength	.151	.032	.555	4.722	0	1

Table 12 – Regression coefficients, Strength as independent variables and Reflexivity as dependent variable

Similar to the second Hypothesis, the **5thHypothesis** states that the relation HRM bundles-employees' outcomes is expected to be mediated by climate. Once again, the three conditions mentioned above needed to be verified. Therefore, regression analyses were conducted for each of the employees' outcomes (*Innovative Behavior*, *Organizational Citizenship Behavior*, and *Work Engagement*) as dependent variables, and each of the HRM bundles (*Training, Internal Recruitment, Merit Compensation*, and *Participation & Job Stability*) as independent variables, and the climate dimensions (*Integration, Formalization, Innovation & Flexibility*, and *Reflexivity*) as mediators.

In the case of *Innovative Behavior* the results show that there is no significant mediation effect of *Integration* between the relation *Merit Compensation* and *Innovative Behavior* (z = .1.54). On the other hand, they also show that there is a mediation effect of the climate dimensions *Innovation* & Flexibility and *Reflexivity* in the same relation (z = 1.65, p = .049; and z = 1.78, p = .038).

		Standardized Coefficients	Sig
		B	
Step 1 (the independent variable predicting the dependent variable)	MC	.342	.016
Step 2 (the independent variable predicting the moderator)	MC	.333	.026
Step 3 (the moderator predicting the dependent variable when controlling the independent variable)	Inn	.317	.014

Table 13– Mediation test for Innovation & Flexibility in Merit Compensation – Innovative Behavior relation

		Standardized Coefficients	Sig
		β	
Step 1 (the independent variable predicting the dependent variable)	MC	.342	.016
Step 2 (the independent variable predicting the moderator)	MC	.368	.011
Step 3 (the moderator predicting the dependent variable when controlling the independent variable)	Ref	.245	.064

Table 14– Mediation test for Reflexivity in Merit Compensation – Innovative Behavior relation

Regarding the mediation effect of the climate dimensions on the relation *Merit Compensation* and *Work Engagement*, only *Innovation & Flexibility* proved to

significantly mediate the former relationship (z = 1.66, p = .048). In the case of *Organizational Citizenship Behavior* the three conditions were not verified.

		Standardized Coefficients	Sig
		B	
Step 1 (the independent variable predicting the dependent variable)	MC	.348	.024
Step 2 (the independent variable predicting the moderator)	MC	.333	.026
Step 3 (the moderator predicting the dependent variable when controlling the independent variable)	Inn	.405	.003

Table 15– Mediation test for Innovation & Flexibility in Merit Compensation – Work Engagement relation

Notwithstanding the small size of the supervisory sample, in order to test the **6thHypothesis**, the influence of HRM practices on organizational culture, a correlation analysis was performed to each of the culture dimensions (*Clan*, *Adhocracy*, *Hierarchy*, and *Market*) as dependent variables and the HRM bundles (*Training*, *Internal Recruitment*, *Merit Compensation*, and *Participation & Job Stability*) as independent variables. The results showed that only *Participation & Job Stability* has a significant relation with Clan culture. The other cultural types did not demonstrate to have a significant relation with the HRM bundles.

		Training	Internal Promotions	Merit Compensation	Clan
Participation&JobStability	Pearson Correlation	.418**	.188	.429**	.642*
	Sig. (2-tailed)	0	.13	0	.033
	Sum of Squares and Cross-products	426	189.788	452.167	107.273
	Covariance	6.358	2.92	6.369	10.727
	N	68	66	72	11

Table 16 – Correlation between HRM practices bundles & Clan Culture

Discussion

This study was quite ambitious in the sense that it had three major purposes: to demonstrate the impact of HRM practices on organizational climate, culture, and performance; to assess HRM strength as a mediating mechanism on the HRM-organizational performance link; and to assess the mediating role of climate and culture on the HRM-organizational performance relationship. Due to the small size of the supervisory sample, some of the study hypotheses could not be adequately tested.

The results show that the bundles that have the highest impact on proximal outcomes are *Merit Compensation* and *Participation & Job Stability*. *Merit Compensation* refers to performance appraisal and contingent variable compensation designed to reward, motivate and retain skilled employees. Since people relate their performance to compensation it would be expected that it would influence all the employees' outcomes. It seems, however, that it affects mainly *Work Engagement* and *Innovative Behavior*. The results are therefore only partially supporting our hypothesis. Alternatively, *Participation & Job Stability* practices refer to the opportunity offered to employees to actively engage in the decision-making process. We can infer from the results obtained that employees feel more connected to the company when they believe that their ideas are important for the company. Also, possibly due to the current fragile economic juncture, *Job stability* seems to contribute to employees' fidelity towards the company. Contrary to expectations, the remaining practices, *Training* and *Internal Recruitment*, were not significant predictors of any proximal outcome.

Concerning organizational climate, the results obtained corroborate the idea that *HRM Strength* and *Merit Compensation* do significantly predict most climate dimensions studied.

Despite some traces of mediation, *HRM Strength* did not appear to significantly mediate the relation between the HRM bundles and employees' outcomes. This result is rather surprising since it would be expected that both *Job Stability* and *Merit Compensation* would need a signaling instrument as a mediator. One factor that might explain the absence of mediation in the case of *Job Stability* is that this bundle is associated with *Participation*; and, in what concerns these practices, employees do not need any signaling since they are already involved in the practices. Another factor that may explain the nonexistent mediation of *HRM Strength* between *Merit Compensation* and some proximal indicators is the role that climate plays. The results obtained also suggest that some climate dimensions mediate the relation between HRM bundles and proximal outcomes. Whereas *Innovation & Flexibility* and *Reflexivity* proved to mediate the relations between *Merit Compensation* and *Innovative Behavior*, only *Innovation & Flexibility* does mediate the relation between *Merit Compensation* and *Work Engagement*.

The results regarding organizational culture showed that *Participation & Job Stability* were the only practices to have a relation with the Clan culture. These results were fairly predictable since Clan culture has an emphasis on participation and engagement of human resources. The results, however, are not to reliable due to the small sample size and the low robustness of the tests used.

Limitations

This study faced some limitations, namely on the data collected. The sample and data collection were very difficult to obtain due to the restructuring and pressures that hospitals are facing nowadays, as well as due to the characteristics that make this a unique field. Health care professionals are very demanded people, sometimes working more than 24 hours shifts. As a consequence, it is not easy to obtain permissions to do

the questionnaires, leading to a less representative number of answers from staff per hospital. Also, the Hospitals have a tendency to protect themselves and not be exposed too much, which does not facilitate the number of Hospitals willing to cooperate in this sort of studies.

Another limitation that can be pointed out concerning this work is the analysis performed to the supervisors' data. Given that the number of questionnaires obtained from supervisors was smaller than 30, due to the reasons described above, it was not possible to perform a Regression Analysis in order to test the hypotheses formulated earlier. As a consequence, it was not possible to draw specific conclusions from the results obtained. Further research in this area of study would benefit from obtaining a more significant sample of supervisors in order to test the impact of the HRM practices on the organizational culture and the impact of culture in organizational outcomes.

Data used in this study come mainly from a public hospital and a small sample from a private hospital. For further research in this area of study it would be interesting to collect a more significant sample from private hospitals and analyze potential differences in the results, given the differences in management styles, culture and climate.

Due to time restrictions, the sample collection occurred in one time period. This means that the HR practices were already implemented, which makes it difficult to analyze the true impact of these on the other variables. Further research on the area would probably benefit from a longitudinal data.

Implications

This study presents both theoretical and practical implications. From the **theoretical** perspective, it reinforces the idea that HR practices have an impact on proximal outcomes. It also enriches the previous literature about the subject, by shedding some

light on the existing flaw, mentioned by Guest (2011), regarding the lack of evidence of causation between HR practices and performance. The causation is shown by the direct influence of HRM Strength and HRM practices on organizational climate which, on the other hand, has also a direct impact on organizational performance. And eventually, it helps to understand some factors that contribute to climate change in the organizations.

The **practical** implications of this study relate mainly to the pressures that the health care industry are facing. Some hospitals have been forced to merge into Hospital Centers which can require considerable changes in the culture and climate. This study helps managers realize how they can modify and influence the organizational climate, like changing mindsets in order to respond quickly to changes, to be open to new ideas, looking for new ways to solve problems. For example, by creating new additional benefits or compensation to reward employees who "think outside of the box", it is possible to foster innovation; on the other hand if it is possible to foster formalization, the HRM practices may punish people who do not follow the rules; additionally, hospitals have also been submitted to intense pressures regarding cost efficiency. The findings show that through compensation instruments, it is possible to directly improve the employees' engagement towards their work and their innovative behavior which might lead to a higher efficiency rate.

In conclusion, this study provides evidence regarding the importance of some practices, particularly *Merit Compensation,* on performance. The study also presents evidence to HR managers on the importance of climate as a mediator in the relation between HRM practices and performance and the means through which it can create strong HRM systems. As a consequence, managers should try to design and implement practices that may contribute for positive proximal outcomes, and be aware of the organizational climate in order to better implement these practices, thus creating a sustainable competitive advantage.

References

Allen, N. And Meyer (1990). "The measurement and antecedents of affective continuance and normative commitment to the organization". Journal of Occupational Psychology, 63:1-18

Bakker, A., Demerouti, E. and Schaufeli, W. (2003). "Dual processes at work in a call centre: An application of the job demands – resources model". *European Journal of Work and Organizational Psychology*, 12 (4): 393-417.

Barney, J. (1991) "Firm Resources and Sustained Competitive Advantage". *Journal of Management*, 1991, Vol. 17:99-120.

Bowen, D. and Ostroff, C. (2004). "Understanding HRM-firm performance linkages: the role of the "strength" of the HRM system". *Academy of Management Review*, 29 (2): 203-221.

Chow, I. and Liu, S. (2009). "The effect of aligning organizational culture and business strategy with HR system on firm performance in Chinese enterprises". *The International Journal of Human Resource Management*, 20 (11): 2292-2310.

Chow, I. (2012). "The roles of implementation and organizational culture in the HR-performance link". *The International Journal of Human Resource Management*, 23 (15): 3114-3132.

Coelho, J.P., Cunha, R.C., Gomes, J. and Correia, A. (2012). "Developing and validating a measure of the strength of the HRM System: operationalizing the construct and relationships among its dimensions" – WP0562, NOVASBE

Cunha, R.C. and Cooper, C. (2002). "Does privatization affect corporate culture and employee wellbeing?". *Journal of Managerial Psychology*, 17 (1): 21-49.

Cunha, R.C. and Cunha, M.P. (2009).“Impact of strategy, strength of the HRM system and HRM bundles on organizational performance”. *Problems and Perspectives of Management*, 7 (1): 57.

Deshpandé, R., Farley, J. and Webster Jr., F. (1993). “Corporate Culture, Customer Orientation, and Innovativeness in Japanese Firms: A Quadrad Analysis”. *Journal of Marketing*, 57: 23-27.

Ferris, G., M. Arthur, M., Berkson, H., Kaplan, D., Harrell-Cook, G., and Frink, D. (1998). “Toward a social context theory of the Human Resource Management-organization effectiveness relationship”. *Human Resource Management Review*, 8 (3): 235-264.

Guest, D. (2011). “Human Resource management and performance: Still searching some answers”. *Human Resource Management Journal*, 21 (1): 3-13.

Kim, S., Price, J., Mueller, C. and Watson, T. (1996). “The determinants of career intent among physicians at a U.S. Air Force Hospital”. *Human Relations Journal*, 49(7): 947-976.

Lee, K. and Allen, N. (2002). “Organizational citizenship behavior and workplace deviance: The role of affect and cognitions”. *The Journal of Applied Psychology*, 87 (1): 131-142.

Molineux, J. (2012). “Enabling organizational cultural change systematic strategic human resource management – a longitudinal case study”. *The International Journal of Human Resource Management*, 24 (8): 1588-1612.

Paauwe, J. and Boselie, P. (2005). “HRM and performance: what next?”. *Human Resource Management Journal*, 15 (4): 68-83.

Paauwe, J. (2009). ”HRM and performance: achievements, methodological issues and prospects”. *Journal of Management Studies*, 46 (1): 129-142.

Patterson, M., West, M., Shacleton, V., Dawson, J., Lawthom, R., Maitlis, S., Robinson, D. and Wallace, A. (2005). "Validating the organizational climate measure: Links to managerial practices, productivity and innovation". *Journal of Organizational Behavior*, 26: 379-408.

Pfeffer, J. (1995) "Producing sustainable competitive advantage through the effective management of people". *Academy of Management Perspectives,* vol. 9(1):55-69.

Rowden, R.W. (2002). 'The Strategic Role of Human Resource Management in Developing a Global Corporate Culture". *International Journal of Management*, vol. 19, (2): 155–160.

Sanders, K., Dorenbosch, L. and Reuver, R. (2008). "The impact of individual and shared employee perceptions of HRM on affective commitment". *Personnel Review*, 37: 412-425.

Shipton, H., Zhou, Q. and Mooi, E. (2013). "Is there a global model of learning organizations? An empirical, cross-nation study". *International Journal of Human Resource Management*, 24(12): 2278-2298.

Svyantek, D. J., & Bott, J. P. (2004). "Organizational culture and organizational climate measures: an integrative review". In J. C. Thomas (Ed.). *Comprehensive handbook of psychological assessment: Industrial and organizational assessment*, vol. 4: 507–524.